BIODIVERSITY NET GAIN ASSESSMENT

SITE LOCATION
Shelley Arms,
Horsham

ISSUE DATE
11th September 2023

SEED REF
1616-BNG-V1-A

CLIENT
Stonegate Group

ARBORICULTURAL CONSULTANCY

SEED-ARB.CO.UK

DOCUMENT CONTROL

Date	Author	Checked	Revision
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1. Introduction

Scope & Purpose

1.1.1. Seed Arboriculture Ltd were commissioned by Stonegate Group to undertake a Biodiversity Net Gain (BNG) Assessment at Shelley Arms, Horsham. This report has been prepared to inform a planning application at the site.

1.1.2. The author of this report is Katie Bird MEnvSci, ACIEEM, Principal Ecologist. Katie is highly experienced managing schemes and has produced many ecological reports to inform planning permission. She holds a Class 2 Natural England Bat Licence and a Class 1 Natural England Great Crested Newt Licence.

Site Location

1.1.3. Please refer to Figure 1 for the approximate site location.

Figure 1 - Site Location Plan

Objectives

1.1.4. The report has been produced to document the methods, results and conclusions of a BNG Assessment undertaken based on the proposed development for the site to fulfil the following:

- Ensure that the mitigation hierarchy has been applied;

- Identify the baseline habitats present and provide a condition assessment;
- Identify the post development habitats on site, assess the possible target condition and provide an indication of the likely importance of those habitats;
- Calculate the overall change in biodiversity score from pre- post development
- Provide design recommendations to maximise potential net gain achievable
- Provide an indication of likely outcomes and indicative cost as required.

Planning Context

1.1.5. Paragraph 174(d) of the revised National Planning Policy Framework (2021) states that "Planning polices, and decisions should contribute to and enhance the natural and local environment by... minimising impacts on and providing net gains for biodiversity..."

1.1.6. The Government 25-year Environment Plan states that government will "embed environmental net gain principle for development.

2. Methodology

Existing Habitat (Baseline)

2.1.1. A Preliminary Ecological Appraisal (PEA) of the site was undertaken by Seed in July 2023. The site was surveyed using UKHab classifications to assess the habitats present (The UK Habitat Classification Working Group, May 2018) using the UK Habitat Classification V1 guidance tool. A habitat map was produced to demonstrate the habitats on site pre-development which also outlines the total area of each habitat parcel.

2.1.2. An Arboricultural Impact Assessment (AIA) was also produced by Seed in August 2023, which was utilised to assist in the assessment, relating to sizing of trees.

2.1.3. The Small Sites Metric automatically assigns a condition assessment for the baseline.

Planning Layout (Post-development)

2.1.4. The Proposed Site Plan provided an indicative redline and development site boundary and detailed the habitats to be created on site. The Proposed Site Layout was developed in combination with this Biodiversity Net Gain Calculation to provide habitats of high value where possible.

The Small Sites Metric

2.1.5. The BNG calculation was undertaken utilising The Small Sites Metric from DEFRA (full calculation available in excel), the site's Habitat map and proposals available. The calculation was performed by a technically competent and experienced ecologist as detailed in British Standard BS8683 – Suitably qualified person –definition in BS8683:2020.

2.1.6. The Small Sites Metric uses habitat features as a proxy measure for capturing the value and importance of nature. The matric takes into account the size, ecological condition, location and proximity to nearby 'connecting' features. The metric enables assessments to be made of the present and forecast future biodiversity value of a site.

2.1.7. The Small Sites Metric is applicable for use for small scale. This site qualifies for use of The Small Sites Metric due to having a total site area of 2373 m^2 and comprising less than 9 proposed dwellings.

Habitat Scoring

2.1.8. The Biodiversity Metric 4.0 supplies reference documents and user guides in which to accurately evaluate and assess the different habitats on site. The methodology for the baseline and post development calculations are demonstrated in the following sections.

Baseline Units

2.1.9. To assess the quality of a habitat and therefore calculate the units scored the Biodiversity Metric 4.0 utilises three scoring factors as detailed below.

Condition

2.1.10. The condition of a habitat is assessed utilising the Condition Sheets' provided for each habitat type. These list positive indicators for each habitat and indicate how many of these indicators need to be present to meet certain thresholds of condition. These condition sheets can be found in the Biodiversity Metric 4.0 habitat condition assessment sheets with instructions tool Technical (Natural England Joint Publication, 2023).

Distinctiveness

2.1.11. The distinctiveness of each habitat (area and linear) is automatically assigned by the tool, based upon national records of the occurrence and rarity of each habitat (Biodiversity Metric 4.0).

Strategic Significance

2.1.12. The idea of strategic significance works at a landscape scale. It gives additional unit value to habitats that are in preferred locations for biodiversity and other environmental objectives. Strategic significance utilises published local plans and objectives to identify local priorities for targeting biodiversity and nature improvement, such Nature Recovery Areas, local biodiversity plans, National Character Area objectives and green infrastructure strategies.

Post Development Units

2.1.13. Additional factors are implemented when assessing post development habitats.

- Difficulty of Creation/Enhancement
- Temporal Risk "Time to target condition".
- Spatial Risk (when offsite mitigation is necessary)

Limitations Of Assessment

2.1.14. Whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterisation and prediction of the natural environment. The conclusions and recommendations detailed in this report are based upon the site redline boundary and the development proposals as outlined by the client at the time of writing. Should there be any changes to the site redline boundary or development proposals at a later stage, this assessment should be reviewed to determine whether any amendments or additional survey work is required.

2.1.15. Habitat areas (pre-development) have been provided by Rickett Architects Ltd.

3. Survey Results

Habitat Descriptions

Urban – Developed Land; Sealed Surface

3.1.1. A total area of 1633m^2 comprised hardstanding and buildings, making up developed land; sealed surface.

Grassland – Modified Grassland

3.1.2. Modified grassland covered a total area of 70 m^2.

Heathland and Shrub – Mixed Scrub

3.1.3. A total area of 670 m^2 comprised mixed scrub.

Individual Trees - Urban Tree

3.1.4. Based on the AIA, 1 tree was located onsite (relating to T1, and remaining trees related to Mixed Scrub Habitat). It was a medium sized tree with a diameter at breast height of 720mm.

Hedgerow – Non-Native and Ornamental Hedgerow

3.1.5. H1 (as referenced in the AIA) comprised a common privet hedge with a length of 7m.

Strategic Significance

3.1.6. The site is assessed as not being in the local strategy.

Condition Assessment

3.1.7. Under The Small Sites Metric, a condition assessment is not applicable for Baseline Habitats. Table 1 summarises the baseline habitats and area size.

Table 1 - Habitat Type and Total Area (pre- development)

Habitat Type	Area (m^2)
Urban – Developed Land; Sealed Surface	1633
Grassland – Modified grassland	70
Heathland and Shrub – Mixed Scrub	670
Habitat Type	**Number**
Urban Tree	1 medium

Habitat Type	Length (m)
Non-Native and Ornamental Hedgerow	7

Retained and Enhanced Habitats

3.1.8. T1 is to be retained. No other habitats are to be retained and enhanced.

Lost Habitats

3.1.9. All other habitats are to be lost to facilitate development.

Pre- Development Habitat Baseline

3.1.10. Please refer to Table 2 summarising the Habitat Baseline for the calculation, demonstrating habitats to be retained, enhance and/or lost.

Table 2 - Habitat Baseline

	Onsite Baseline	Retained	Enhanced	Lost
Habitat (Area) Units	0.9009	0.3369	-	0.564
Habitat (Linear) Units	0.007	-	-	0.007

4. Habitat Creation

Urban – Developed Land; Sealed Surface

4.1.1. A total area of 1675m² of buildings and hardstanding is to be created within the site. The Targeted Condition is pre-set on The Small Sites Metric as “N/A – Other”.

Urban – Vegetated Garden

4.1.2. A total area of 418m² of vegetated garden is to be created within the site. The Targeted Condition is pre-set on The Small Sites Metric as “Condition Assessment N/A”.

Grassland – Modified Grassland

4.1.3. A total of 280m^2 of “Modified grassland” is to be created to amenity grassland. It is set to target a “Moderate” condition. This will be achieved through the following management practices by targeting the following conditions:

- There must be 6-8 species per m^2
- Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area.
- Physical damage is to be evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.
- Cover of bare ground is to be between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).
- Cover of bracken is to be less than 20%.
- There is to be an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).

Individual Trees – Urban Trees

4.1.4. A total of 13 trees are to be planted and assessed as small. The trees will target a “Moderate” Habitat Condition by seeking to meet the following condition assessments:

- More than 70% of trees are native species.
- There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.
- Trees are immediately adjacent to other vegetation, and tree canopies are oversailing vegetation beneath.

Hedgerow - Native Hedgerow

4.1.5. A total length of 121m of “Native Hedgerow” is to be created. It is set to target a “Moderate” condition. This will be achieved through the following management practices by targeting the following four conditions:

- >90% of the hedgerow or undisturbed ground is free of non-native and neophyte species.
- Gaps to make up <10% of total length
- Gap between ground and base of canopy <0.5 m for >90% of length
- Plant species indicative of nutrient enrichment dominate <20% cover
- Height to be >1.5m average along length
- >90% of the hedgerow or undisturbed ground is free of damage caused by human activities.

5. Summary

5.1.1. This report and The Small Sites Metric submitted have demonstrated that the proposed habitat creation and retention will achieve a net in hedgerow units of +5686%. However, there is a loss of -24.91% of area habitat. The trading rules have also not been satisfied due to the loss of mixed scrub.

5.1.2. Given the net loss achieved on site, and the lack of opportunity within the scheme to provide sufficient habitat space to achieve a net gain, offsetting will be required in order to meet emerging policy requirements. It is calculated that 0.2245 Biodiversity Area Units will be required for the scheme to achieve a 10% net gain. Consultation with the Local Planning Authority should be undertaken to identify suitable locations for offsetting or for an offsetting contribution.

Figure 2 - Summary

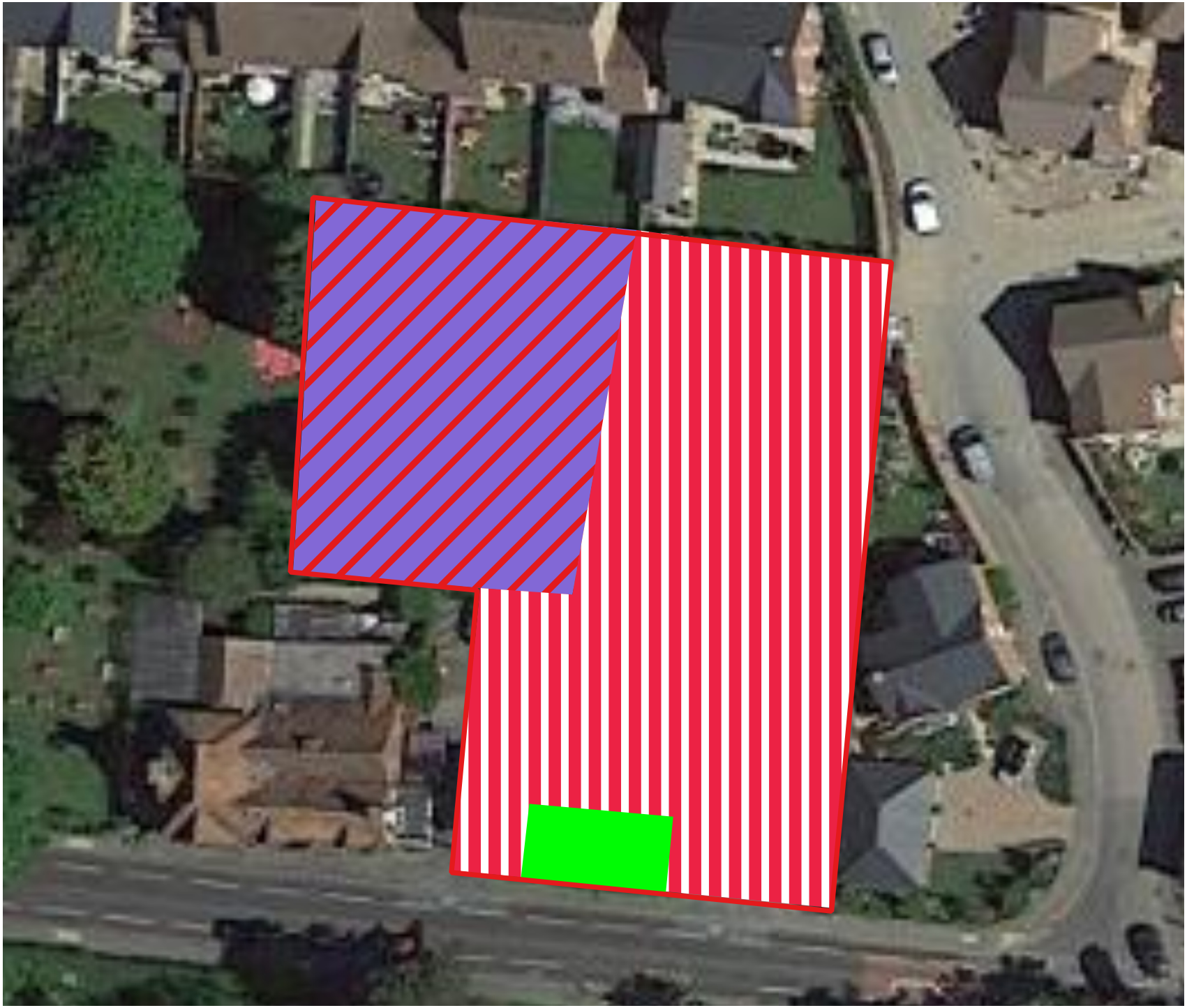
Site Name		Enter site name on 2. Site Details
Sheet Name		Headline Results
Headline Results		
Headline		BNG Targets Not Met ▲
Trading Rules		Trading Rules Not Satisfied ▲
Next steps		Scheme alterations or offsite units required
		If BNG targets cannot be reached on-site, the main Biodiversity Metric 4.0 should be used.
Baseline Units	*Habitat units*	0.9009
	Hedgerow units	0.0070
	River units	Zero Units Baseline
Post-development Units	*Habitat units*	0.6765
	Hedgerow units	0.4050
	River units	0.0000
Total net unit change	*Habitat units*	-0.2245 ▲
	Hedgerow units	0.3980
	River units	0.0000
Total net % change	*Habitat units*	-24.91% ▲
	Hedgerow units	5686.07%
	River units	% target not appropriate
Habitats units required to meet target		0.2245
Hedgerow units required to meet target		0.0000
River units required to meet target		0.0000

5.1.3. It is recommended that a production of a Biodiversity Enhancement Management Plan (BEMP) is conditioned as part of the planning application. The BEMP will need to set out the actions required to achieve and maintain the biodiversity value of the site for a period of 30 years. All habitats whose value is contributing to the overall biodiversity value of the site must be detailed in the BEMP.

5.1.4. The BEMP objectives would need to include:

- a plan of the areas of habitat to be maintained, enhanced and/or created;
- a schedule of actions to create or enhance and maintain each habitat at the required

- quality for a period of 30 years;
- a schedule of ecological monitoring for the 30 year period identifying when key indicators
- of habitat maturity should be achieved; and
- schedule of actions to be undertaken in case signs of failing are identified.



Drawing Title: Current Habitat Map
Date: 19/07/2023

Red line boundary

Mixed scrub

h3 - dense scrub

Hardstanding

u1b - developed land. sealed surface

modified grassland

g4 - modified grassland

Scale: 1:700

Drawn By: KB

Checked By: OC

Approved By: OC

SEED

Client: Stonegate Group

Site: Shelley Arms, RH12 3JU

Project Number: | Rev: 1.0